

LISTING OF THE CLAIMS

1. (Previously Presented) A method of producing a bone substitute material in the form of a block predominantly composed of carbonate apatite for medical use, which comprises the step of forming carbonate apatite by contacting a block of calcium compound with a phosphate-containing solution, wherein said calcium compound block contains substantially no powders such that powders with a diameter of 20 micrometers or smaller are less than 1.0% by weight of said calcium compound block, wherein at least one of said calcium compound block and said phosphate solution contains a carbonate group, and wherein the method does not include any sintering step, and wherein the block of calcium compound is one prepared using an artificially synthesized calcium compound.

2. (Cancelled).

3. (Previously Presented) The method of producing a bone substitute material for medical use as claimed by claim 1, wherein the calcium compound block prepared using an artificially synthesized calcium compound is a foamed calcium compound.

4. (Previously Presented) A bone substitute material produced by a method comprising forming carbonate apatite by contacting a block of calcium compound with a phosphate-containing solution, wherein said calcium compound block contains substantially no powders such that powders with a diameter of 20 micrometers or smaller are less than 1.0% by weight, wherein at least one of said calcium compound block and said phosphate solution contains a carbonate group, and wherein the method does not include any sintering step, and wherein the bone substitute material is predominantly composed of carbonate apatite, and wherein the block of calcium compound is one prepared using an artificially synthesized calcium compound.

5. (Cancelled).

6. (Previously Presented) A bone substitute material claimed in claim 4, wherein the calcium compound block prepared using an artificially synthesized calcium compound is a foamed calcium compound.

7. (Previously Presented) The method of producing a bone substitute material for medical use as claimed in claim 1, wherein the contacting of the block of calcium compound with the phosphate-containing solution comprises immersing the block in the phosphate-containing solution.

8. (Previously Presented) The method of producing a bone substitute material for medical use as claimed in claim 3, wherein the porous block has an average pore diameter in a range of 50-1000 μ m.

9. (Previously Presented) A method of producing a bone substitute material predominantly composed of carbonate apatite, comprising:

providing a porous body formed of a calcium compound, the body containing substantially no powders and having an average pore diameter in a range of 50-1000 μ m;

contacting the porous body with a phosphate-containing solution, at least one of said porous body and said phosphate solution containing a carbonate group, whereby the porous body is predominantly composed of carbonate apatite; and
wherein the method does not include any sintering step.

10. (Previously Presented) The method of producing a bone substitute material for medical use as claimed by claim 1, wherein said calcium compound block contains substantially no powders such that powders with a diameter of 20 micrometers or smaller are less than 0.8% by weight.

11. (Previously Presented) The method of producing a bone substitute material of claim 1, wherein said calcium compound block contains calcium sulfate.

12. (Previously Presented) The method of producing a bone substitute

material of claim 11, wherein said phosphate solution contains a carbonate group.

13. (Previously Presented) The method of producing a bone substitute material of claim 12, wherein said phosphate solution contains ammonium carbonate.

14. (Previously Presented) The method of producing a bone substitute material of claim 11, wherein said calcium compound block also contains calcium carbonate.

15 (Previously Presented) The method of producing a bone substitute material of claim 1, wherein said calcium compound block is a tricalcium phosphate block and wherein said phosphate solution contains a carbonate group.

16. (Previously Presented) The method of producing a bone substitute material of claim 15, wherein said phosphate solution contains ammonium carbonate.

17. (Previously Presented) The method of producing a bone substitute material of claim 9, wherein the block of calcium compound is one prepared using an artificially synthesized calcium compound